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**1** [Edge subdivision schemes and the construction of smooth vector fields](#)
[Ke Wang, Weiwei, Yiyong Tong, Mathieu Desbrun, Peter Schröder](#)

 July 2006 **SIGGRAPH '06:** SIGGRAPH 2006 Papers

**Publisher:** ACM

 Full text available: [Mov](#) (20:22 MIN), [Pdf](#) (642.83 KB) Additional Information: [full citation](#), [abstract](#), [referer](#), [index terms](#)
**Bibliometrics:** Downloads (6 Weeks): 12, Downloads (12 Months): 139, Citation Count: 2

Vertex- and face-based subdivision schemes are now routinely used in geometric model computational science, and their primal/dual relationships are well studied. In this paper we interpret these schemes as defining bases for *discrete differential* ...

**Keywords:** *discrete differential geometry, discrete exterior calculus, smooth surface modeling, subdivision, vector fields*

Also published in:

 July 2006 **Transactions on Graphics (TOG)** Volume 25 Issue 3

**2** [Modified subdivision surfaces with continuous curvature](#)
[Adi Levin](#)

 July 2006 **SIGGRAPH '06:** SIGGRAPH 2006 Papers

**Publisher:** ACM

 Full text available: [Mov](#) (22:1 MIN), [Pdf](#) (593.62 KB) Additional Information: [full citation](#), [abstract](#), [referer](#), [index terms](#)
**Bibliometrics:** Downloads (6 Weeks): 18, Downloads (12 Months): 124, Citation Count: 2

We present a modification to subdivision surfaces, which guarantees second-order smoothness everywhere in the surface, including extraordinary points. The idea is to blend the limit surface with a low degree polynomial defined over the characteristic ...

**Keywords:** curvature continuity, subdivision surfaces

Also published in:

 July 2006 **Transactions on Graphics (TOG)** Volume 25 Issue 3

**3** [Near-optimal parameterization of the intersection of quadrics](#)
[Laurent Dupont, Daniel Lazard, Sylvain Lazard, Sylvain Petitjean](#)

 June 2003 **SCG '03:** Proceedings of the nineteenth annual symposium on Computational Geometry

**Publisher:** ACM

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Full text available:  Pdf (322.08 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [review](#)**Bibliometrics:** Downloads (6 Weeks): 5, Downloads (12 Months): 50, Citation Count: 6


In this paper, we present the first exact, robust and practical method for computing an exact representation of the intersection of two arbitrary quadrics whose coefficients are rational. The results from the theory of quadratic forms, linear ...

**Keywords:** quadric surface intersection, robustness of geometric computations

#### 4 [Introduction to genetic programming](#)

 [John R. Koza](#)July 2007 **GECCO '07:** Proceedings of the 2007 GECCO conference companion on Genetic evolutionary computation**Publisher:** ACMFull text available:  Pdf (1.51 MB)Additional Information: [full citation](#), [index terms](#)**Bibliometrics:** Downloads (6 Weeks): 24, Downloads (12 Months): 343, Citation Count: 0


#### 5 [Accurate approximate solution of partial differential equations at off-mesh points](#)

 [W. H. Enright](#)June 2000 **Transactions on Mathematical Software (TOMS)**, Volume 26 Issue 2**Publisher:** ACMFull text available:  Pdf (199.29 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [review](#)**Bibliometrics:** Downloads (6 Weeks): 2, Downloads (12 Months): 40, Citation Count: 2

Numerical methods for partial differential equations often determine approximations that are more accurate at the set of discrete meshpoints than they are at the "off-mesh" points in the region of interest. These methods are generally most ...


**Keywords:** collocation, rendering, scientific visualization

#### 6 [Computational algebra and algebraic curves](#)

 [Tanush Shaska](#)December 2003 **SIGSAM Bulletin**, Volume 37 Issue 4**Publisher:** ACMFull text available:  Pdf (105.33 KB)Additional Information: [full citation](#), [abstract](#), [references](#)**Bibliometrics:** Downloads (6 Weeks): 3, Downloads (12 Months): 44, Citation Count: 0

The development of computational techniques in the last decade has made possible to solve some classical problems of algebraic geometry. In this survey, we briefly describe some open problems related to algebraic curves which can be approached from ...

#### 7 [Intersecting quadrics: an efficient and exact implementation](#)


 [S. Lazard, L. M. Peñaranda, S. Petitjean](#)June 2004 **SCG '04:** Proceedings of the twentieth annual symposium on Computational geometry**Publisher:** ACMFull text available:  Pdf (411.98 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [review](#)**Bibliometrics:** Downloads (6 Weeks): 5, Downloads (12 Months): 43, Citation Count: 4

We present the first complete, exact and efficient C++ implementation of a method for parameterizing the intersection of two implicit quadrics with integer coefficients of arbitrary degree based on the near-optimal algorithm recently introduced ...

**Keywords:** C++ implementation, experimental analysis, intersection of quadrics


- 8 [Closed form solution for optimal buffer sizing using the Weierstrass elliptic function](#)  
[Sebastian Vogel, Martin D. F. Wong](#)  
 January 2006 **ASP-DAC '06**: Proceedings of the 2006 conference on Asia South Pacific design automation

**Publisher:** IEEE Press

Full text available:  [Pdf](#) (215.96 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)


**Bibliometrics:** Downloads (6 Weeks): 0, Downloads (12 Months): 16, Citation Count: 0

This paper presents a fundamental result on buffer sizing. Given an interconnection wire with buffers evenly spaced along the wire, we would like to size all buffers such that the Elmore delay is minimized. It is well known that the problem ...

- 9 [Scalar fused multiply-add instructions produce floating-point matrix arithmetic provably accurate to the penultimate digit](#)  
 [Yves Nievergelt](#)

March 2003 **Transactions on Mathematical Software (TOMS)**, Volume 29 Issue 1

**Publisher:** ACM


Full text available:  [Pdf](#) (219.83 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 3, Downloads (12 Months): 56, Citation Count: 4

Combined with doubly compensated summation, scalar fused multiply-add instructions realize a new concept of floating-point arithmetic, because they allow for the computation of sums of complex matrix products accurate to the penultimate digit. ...


**Keywords:** Doubly compensated summation, floating-point arithmetic, fused multiply-add instruction, matrix arithmetic, provable accuracy, rounding error

- 10 [The NP-completeness column](#)

 [David S. Johnson](#)

July 2005 **Transactions on Algorithms (TALG)**, Volume 1 Issue 1

**Publisher:** ACM

Full text available:  [Pdf](#) (153.13 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 24, Downloads (12 Months): 240, Citation Count: 2

This is the 24th edition of a column that covers new developments in the theory of NP-completeness. The presentation is modeled on that which M. R. Garey and I used in our book "Computational Intractability: A Guide to the Theory of NP-Completeness," ...

**Keywords:** NP-completeness, coding theory, lattice bases, open problems, perfect graph testing

### Three-dimensional human display model

T. E. Potter, K. D. Willmert

April 1975 **SIGGRAPH '75**: Proceedings of the 2nd annual conference on Computer graphics and interactive techniques

**Publisher:** ACM

Full text available:  Pdf (185.67 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#)


**Bibliometrics:** Downloads (6 Weeks): 2, Downloads (12 Months): 33, Citation Count: 3

A two-dimensional computer graphic display of a three-dimensional model depicting a human figure is presented. The major body segments of the model are represented as non-uniform elliptical cylinders. The shadow outlines of these cylinders are displayed ...

Also published in:

April 1975 **SIGGRAPH Computer Graphics** Volume 9 Issue 1

### 12 Algebraic surface design with Hermite interpolation

 Chanderjit L. Bajaj, Insung Ihm

January 1992 **Transactions on Graphics (TOG)**, Volume 11 Issue 1

**Publisher:** ACM

Full text available:  Pdf (8.01 MB)


Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [review](#)

**Bibliometrics:** Downloads (6 Weeks): 3, Downloads (12 Months): 64, Citation Count: 11

This paper presents an efficient algorithm called Hermite interpolation, for constructing implicit algebraic surfaces, which contain, with  $C^1$  or tangent plane continuity, any given collection of curves and algebraic surfaces ...

**Keywords:** Algebraic surface, Hermite interpolation, computer-aided geometric design, continuity, linear systems

### 13 ANTS VI: algorithmic number theory symposium poster abstracts

 Ilias Kotsireas, Emil Volcheck

September 2004 **SIGSAM Bulletin**, Volume 38 Issue 3

**Publisher:** ACM


Full text available:  Pdf (435.21 KB)

Additional Information: [full citation](#), [abstract](#), [references](#)

**Bibliometrics:** Downloads (6 Weeks): 3, Downloads (12 Months): 26, Citation Count: 0

The Algorithmic Number Theory Symposium (ANTS) meetings are held biannually since 1993 and have become the premier international forum for the presentation of new research in Computational Number Theory. Previous ANTS conferences have been held as follows: ...

### 14 Power scheduling for wireless sensor and actuator networks

 Christopher J. Rozell, Don H. Johnson

April 2007 **IPSN '07**: Proceedings of the 6th international conference on Information processing in sensor networks

**Publisher:** ACM

Full text available:  Pdf (636.13 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index term](#)

**Bibliometrics:** Downloads (6 Weeks): 4, Downloads (12 Months): 158, Citation Count: 0





We previously presented a model for some wireless sensor and actuator network (WSAN)

applications based on the vector space tools of frame theory. In this WSAN model there associated to each sensor-actuator link denoting the importance of ...

**Keywords:** frame theory, optimization, power scheduling, wireless sensor and actuator

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